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(54) AUTOMATIC CM IDENTIFICATION SYSTEM

(57) Abstract:

PURPOSE: To facilitate the management of reference data to reduce the number of comparing functions and to record only a new material CM by concentrating the identification processings of CMs.

CONSTITUTION: A device 1-1 or the like of respective broadcasting areas (1) or the like detects the CM sound of TV broadcast by a CM scanner 10-1 or the like for respective stations and transmits it to the device 3. The device 3 discriminates the CM by performing collation with the sound for comparison recorded in a memory 314-1 or the like and records CM information including a VR code in a file 313-1 or the like corresponding to the stations. In the case of the new material CM which can not be collated the CM information including a Z code or the like is recorded and a message is returned. A controller 13 which receives the message controls the start and stop of the VTR 12-1 or the like of the corresponding station and only the video images and the sound of the new material CM delayed for prescribed time are recorded by a memory device 11-1 or the like. A recorded tape is reproduced on a TV 22 by the VTR 21 and when the contents of the CM are confirmed and the VR code substituting the Z code is inputted from a compact computer 23 and transmitted the device 3 replaces the original CM information the Z code with the VR code.

CLAIMS

[Claim(s)]

[Claim 1]Characterized by comprising the following CM automatic discrimination system.

CM extracting apparatus which it had for every TV broadcast area.

CM scanner which comprises a CM identification device connected via CM extracting apparatus and a channel of these plurality so that communication was possibleit has said CM extracting apparatus for every office for the CM identification in self-TV broadcast areareceives broadcast of a corresponding officeand detects CM voice data.

CM data containing the number of broadcast seconds of CM voice data detected with CM scanner of these pluralitya station name it was broadcast that this CM wastime when this CM was broadcastand this CMIncluding CM extraction control device which transmits to said CM identification device via said channelsaid CM identification deviceCM criterion data memory measure corresponding to each TV broadcast area where CM criterion data which comprises attached data containing an identification code of voice data for comparison of broadcast schedule CM and this broadcast schedule CM is registered for every office for CM identification.

CM recorder file which it had for every office for CM identification of each TV broadcast areaCM voice data in CM data received from CM extracting apparatus of each TV broadcast areaAs compared with voice data for comparison in CM criterion data of a corresponding office in corresponding CM criterion data memory measure for TV broadcast areaby being in agreementA comparison means to record attached data in the CM criterion dataand CM broadcasting time information in the CM data on applicable CM recorder file.

[Claim 2]A comparison means of said CM identification device CM voice data in CM data received from CM extracting apparatus of each TV broadcast areaWhen it compares with voice data for comparison in CM criterion data corresponding to a station name in this CM data in corresponding CM criterion data memory measure for TV broadcast area and coincidence cannot be takenAs compared with voice data for comparison in CM criterion data of other officesby being in agreementRecord attached data in the congruous CM criterion dataand CM broadcasting time information in the CM data on CM recorder file corresponding to an office of a station name in said CM dataand. The CM automatic

discrimination system according to claim 1 generating the new voice data for comparison from CM voice data in received CM dataand having the composition added to said CM criterion data memory measure as voice data for comparison in CM criterion data corresponding to a station name in said CM data.

[Claim 3]About CM data characterized by comprising the following. Record on CM recorder file which generates a code unique as a code replaced with a broadcast schedule CM identification codeand corresponds CM broadcasting time information in this code and its CM dataand. The new voice data for comparison is generated from CM voice data in received CM dataalt adds to said CM criterion data memory measure with said unique code as voice data for comparison in CM criterion data corresponding to a station name in said CM dataAnd it has the composition which notifies a message of a purport that the CM data is data concerning new-materials CM to delivery origin of the CM dataCM extraction control device in CM extracting apparatus of CM data delivery origin which received this messageBy controlling timing of starting of VTR for new-materials CM corresponding to an office concerning CM data discriminated from new-materials CMand a stopThe CM automatic discrimination system according to claim 1 or 2 having the composition which records only an image and a sound of new-materials CM which are outputted from a corresponding video voice storage device on said VTR for new-materials CM.

A video voice storage device which carries out fixed time delay and outputs a corresponding video signal and an audio signal of an office for every CM scanner.

CM voice data which is provided with VTR for new-materials CM which records a video signal and an audio signal which were outputted from this video voice storage deviceand does not correspond with voice data for comparison.

DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Industrial Application]This invention relates to the system which automatic-identifies the commercial message (CM) broadcast for every channel of each TV broadcast areaand records it.

[0002]

[Description of the Prior Art]In our countrythere is some TV broadcast

areas such as the Kanto area the Kansai area and the Nagoya area there are many broadcasting stations for every TV broadcast area further and every day very many CMs are broadcast.

[0003] Although it decides on a broadcasting date the number of broadcast second etc. a priori and they are broadcast in accordance with the contract between a broadcasting station a sponsor etc. according to the schedule defined beforehand CM in such TV broadcast It is not necessarily actually broadcast by various factors as a schedule. Then the business which checks what kind of CM has actually been broadcast is needed for every broadcasting areas and office.

[0004] Conventionally this kind of business is chiefly carried out by help work.

VTR (videotape recorder) and monitor TV corresponding to each office are arranged to the establishment for every broadcasting areas whenever it viewed and listened to monitor TV and broadcast of CM was performed by some workers after checking the contents a memo is taken and this is totaled behind.

[0005] However in such a method many helps were needed and also since it was human being's confirmation work it was easy to generate a check miss and there was a problem also in accuracy.

[0006] In view of such a situation these people judge the time of CM automatic confirming device which is looked at by JP3-289829A i.e. the received voice of TV broadcast becoming silent and a video signal changing substantially to be a start or end of CM The device which identifies broadcast CM automatically is previously proposed by extracting an audio signal in the meantime and comparing with the audio signal accumulated beforehand.

[0007]

[Problem(s) to be Solved by the Invention] Although it became mechanizable [CM check business] and labor saving and high-reliability were attained by using CM automatic confirming device of the above-mentioned proposal it faces applying the art of such a CM automatic confirming device to the actual field and some issues which should still be solved are left behind.

[0008] In CM automatic confirming device of the one above-mentioned proposal. Since CM check by collation of voice data is carried out in a means (computer for CM data collation) to perform the draw of CM when carrying out CM identification for every two or more broadcasting areas and broadcasting station need to accumulate the voice data used as a standard in each computer for CM data collation and management of

criterion data becomes complicated and it is that the comparative collation function of voice data is needed for each office correspondence.

[0009] The 1st purpose of this invention then by putting in block management of the voice data used as a standard and the comparative collation which uses it in one CM identification device common to two or more broadcasting areas and performing it. Management of criterion data is easy and there is in providing CM automatic discrimination system which does not need the comparative collation function of voice data for each office correspondence.

[0010] One of everything [the] but the issue which should be solved is the problem about new-materials CM that the voice data used as a standard is not yet registered. That is since the voice data which serves as a standard about new-materials CM is not registered it becomes the outside of the object of automatic discernment. Therefore although help work is surely needed in the method of identifying and checking CM which was not able to carry out automatic discernment while recording all the contents of broadcast on VTR for every office and playing it so that above-mentioned JP3-289829A may indicate this checking new-materials CM takes time and effort and quick discernment becomes difficult.

[0011] Then even if the 2nd purpose of this invention is new-materials CM in the office there is in enabling the automatic discernment as much as possible about CM already broadcast in other offices.

[0012] The 3rd purpose of this invention enables it to perform promptly the check by the help about perfect new-materials CM and there is in automating registration of the voice data used as the standard over the new-materials CM and enabling automatic discernment to the same CM that appears henceforth.

[0013]

[Means for Solving the Problem] CM automatic discrimination system of this invention is provided with the following.

CM extracting apparatus which it had for every TV broadcast area in order to attain the 1st above-mentioned purpose.

CM scanner which comprises a CM identification device connected via CM extracting apparatus and a channel of these plurality so that communication was possible. It has said CM extracting apparatus for every office for the CM identification in self-TV broadcast area receives broadcast of a corresponding office and detects CM voice data.

CM data containing the number of broadcast seconds of CM voice data detected with CM scanner of these plurality a station name it was broadcast that this CM was time when this CM was broadcast and this

CM including CM extraction control device which transmits to said CM identification device via said channelsaid CM identification deviceCM criterion data memory measure corresponding to each TV broadcast area where CM criterion data which comprises attached data containing an identification code of voice data for comparison of broadcast schedule CM and this broadcast schedule CM is registered for every office for CM identification.

CM recorder file which it had for every office for CM identification of each TV broadcast areaCM voice data in CM data received from CM extracting apparatus of each TV broadcast areaAs compared with voice data for comparison in CM criterion data of a corresponding office in corresponding CM criterion data memory measure for TV broadcast areaby being in agreementA comparison means to record attached data in the CM criterion dataand CM broadcasting time information in the CM data on applicable CM recorder file.

[0014]In order to also attain the 2nd above-mentioned purposea comparison means of said CM identification deviceCM voice data in CM data received from CM extracting apparatus of each TV broadcast areaWhen it compares with voice data for comparison in CM criterion data corresponding to a station name in this CM data in corresponding CM criterion data memory measure for TV broadcast area and coincidence cannot be takenAs compared with voice data for comparison in CM criterion data of other officesby being in agreementRecord attached data in the congruous CM criterion dataand CM broadcasting time information in the CM data on CM recorder file corresponding to an office of a station name in said CM dataand. The new voice data for comparison is generated from CM voice data in received CM dataand it has the composition added to said CM criterion data memory measure as voice data for comparison in CM criterion data corresponding to a station name in said CM data.

[0015]A video voice storage device which carries out fixed time delay and outputs a video signal and an audio signal of an office for every CM scanner in order to also attain the 3rd above-mentioned purposeHave VTR for new-materials CM which records a video signal and an audio signal which were outputted from this video voice storage deviceand a comparison means of said CM identification deviceAbout CM data containing CM voice data which is not in agreement with voice data for comparison. Record on CM recorder file which generates a code unique as a code replaced with a broadcast schedule CM identification codeand corresponds CM broadcasting time information in this code and its CM

dataand. The new voice data for comparison is generated from CM voice data in received CM dataIt adds to said CM criterion data memory measure with said unique code as voice data for comparison in CM criterion data corresponding to a station name in said CM dataAnd CM extraction control device in CM extracting apparatus of CM data delivery origin which has the composition which notifies a message of a purport that the CM data is data concerning new-materials CM to delivery origin of the CM dataand received this messageIt has the composition which records only an image and a sound of new-materials CM which are outputted from a corresponding video voice storage device on said VTR for new-materials CM by controlling timing of starting of VTR for new-materials CM corresponding to an office concerning CM data discriminated from new-materials CMand a stop.

[0016]

[Function]In CM automatic discrimination system of this inventionCM scanner for every office for CM identification in CM extracting apparatus which it had for every TV broadcast areaReceive the TV broadcast of a corresponding officedetect CM voice dataand CM extraction control device in the CM extracting apparatusCM data containing the number of broadcast seconds of the time and CM it was broadcast that CM voice data detected with CM scannerthe station name it was broadcast that CM wasand CM were is transmitted to a CM identification device through a channel.

[0017]CM criterion data which comprises attached data containing the identification code of the voice data for comparison of broadcast schedule CM and this broadcast schedule CM at the CM identification device sideCM criterion data memory measure corresponding to each TV broadcast area registered for every office for CM identificationIf there is a CM recorder file which it had for every office for CM identification of each TV broadcast area and CM data is sent from CM extracting apparatus for every TV broadcast areaThe comparison means of a CM identification device CM voice data in received CM data by being in agreement as compared with the voice data for comparison in CM criterion data of the corresponding office in corresponding CM criterion data memory measure for TV broadcast areaThe attached data in the CM criterion data and the CM broadcasting time information in the CM data are recorded on applicable CM recorder file.

[0018]When it compares with the voice data for comparison in CM criterion data corresponding to the station name in CM datacoincidence cannot be taken and a comparison means is in agreement as compared with the voice data for comparison in CM criterion data of other

officesRecord the attached data in the congruous CM criterion dataand the CM broadcasting time information in the CM data on CM recorder file corresponding to the office of the station name in said CM dataand. The new voice data for comparison is generated from CM voice data in received CM dataand it adds to said CM standard data file as voice data for comparison in CM criterion data corresponding to the station name in said CM data.

[0019]About CM data containing CM voice data which is not in agreement with the voice data for comparisona comparison means. Record on CM recorder file which generates a code unique as a code replaced with a broadcast schedule CM identification codeand corresponds the CM broadcasting time information in this code and its CM dataand. The new voice data for comparison is generated from CM voice data in received CM dataThe message of the purport that it is data which adds to said CM criterion data memory measure with said unique code as voice data for comparison in CM criterion data corresponding to the station name in said CM dataand requires the CM data for the delivery origin of the CM data at new-materials CM is notified. And CM extraction control device in CM extracting apparatus of CM data delivery origin which received this messageOnly the image and sound of new-materials CM which are outputted from a corresponding video voice storage device are recorded on said VTR for new-materials CM by controlling the timing of starting of VTR for new-materials CM corresponding to the office concerning CM data discriminated from new-materials CMand a stop.

[0020]

[Example]Nextthe example of this invention is described in detail with reference to drawings.

[0021]When drawing 1 is referred toCM automatic discrimination system of one example of this inventioneach TV broadcast area (1) and (2) -- (with CM extracting apparatus 1-11-2 with which every 3) was equipped1-3 and new-materials CM information input device 2-12-2and 2-3, Via two or more CM extracting apparatus 1-11-21-3the channel L11 and L21and L31 (for exampleleased telephone circuit). It comprises the CM identification device 3 which was connected so that communication was possibleand was connected via two or more new-materials CM information input device 2-12-22-3the channel L12 and L22and L32 (for exampledial-up line) so that communication was possible.

[0022]The CM extracting apparatus 1-1 has the CM scanner 10-1 - 10-nthe video voice storage device 11-1 - 11-n corresponding to 1 to 1and VTR12-1 for new-materials CM - 12-n to the office for CM identification in self-TV broadcast area (A station - F station)and. It has CM extraction

control device 13 common to theseand CM extraction control device 13 is connected to the channel L11 via the modem 14. CM extracting apparatus 1-21-3 of other TV broadcast area has the same composition as the CM extracting apparatus 1-1.

[0023]VTR21 for playback for the new-materials CM information input device 2-1 to play the VTR tape recorded by VTR12-1 for new-materials CM - 12-nTV22 for a monitor connected to this VTR21 for reproductionand the small computer 23 used for the entry of data about new-materials CMIt has the printer 25 used for printing of TV record table 24andas for the small computer 23the printer 25 is connected to the channel L12 via the modem 27 via the modem 26respectively. New-materials CM information input device 2-22-3 of other TV broadcast area has the same composition as the new-materials CM information input device 2-1.

[0024]There are two LAN300301 in the CM identification device 3. The modem 302303304the communication control unit 305the network server 306and the computer 307 for CM comparison are connected to LAN300and the modem 308309310 and the communication control unit 311 are connected to LAN301. Two or more CM [network server / 306] standard data file (master file) 312-1 - 312-mTwo or more CM recorder files 313-1 - 313-x are connectedand two or more CM standard data memory 314-1 to 314-3 is connected to the computer 307 for CM comparisonThe process computer 315 for CM statistics is connected to the communication control units 305 and 311and CM advertising statistical report file 316 is connected to this process computer 315 for CM statistics.

[0025]Hereaftermain operations of the above-mentioned example are explainedgiving the concrete example of composition of each part.

[0026](1) Each CM scanner 10-1 grade in extraction each TV broadcast area (1) CM extracting apparatus 1-1 to 1-3 of - (3) of CM voice data based on CM extracting apparatusCM voice data which received the TV broadcast from the office which a self-scanner takes charge of among the TV broadcasts broadcast in self-TV broadcast areadetected CM voice dataand was detected in the case of this exampleCM data including the start time when the CM voice data appearedthe number of seconds of the CMand a station name is transmitted to CM extraction control device 13. Video-signal Vlaudio signal Aand the time signal T of broadcast which have been received are transmitted to the video voice storage device 11-1 corresponding to self.

[0027]Drawing 2 is a block diagram showing the example of composition of the CM scanner 10-1and has composition with other same CM scanner 10-n. This CM scanner 10-1It comprises the receiving circuit 100the synchronizing separator circuit 101the stereo signal detector circuit

102the voice data preparing part 103the voice silence detection part 104the video change primary detecting element 105the clock part 106the superimposition circuit 107and the control section (CPU board) 108.

[0028]In the CM scanner 10-1 of drawing 2the broadcast wave of the office (A office) which a self-scanner takes charge of among the broadcast waves which arrived at the receiving antenna is received by the receiving circuit 100and video-signal VI which is audio signal AU and a composite signal is taken out. It is inputted into the synchronizing separator circuit 101Vertical Synchronizing signal V and Horizontal Synchronizing signal H are generatedand video-signal VI outputted from the receiving circuit 100 is supplied to each part. On the other handaudio signal AU outputted from the receiving circuit 100 is inputted into the stereo signal detector circuit 102it is distinguished by the existence of a recognition signal whether it is a stereophonic broadcastand when it is a stereophonic broadcasta signal to that effect is given to control-section 108 grade.

[0029]The audio signal which passed through the stereo signal detector circuit 102 is inputted into the voice data preparing part 103and the voice data preparing part 103 creates the voice data by which the predetermined bit was digitized as timing of a sampling of Vertical Synchronizing signal V given from the synchronizing separator circuit 101. This created voice data is incorporated in the control section 108and is stored in RAM etc. The audio signal which branched from the voice data preparing part 103It is inputted into the voice silence detection part 104and by sampling Vertical Synchronizing signal V given from the synchronizing separator circuit 101 as timing of a standardthe voice silence detection part 104 creates the non-sound data of a predetermined bit in which it is shown whether it is a soundless stateand sends it out to the control section 108.

[0030]On the other handoutputted video-signal VI is inputted also into the video change primary detecting element 105 and the superimposition circuit 107 from the receiving circuit 100and the video change primary detecting element 105A video signal is sampled as timing of a sampling of Vertical Synchronizing signal V and Horizontal Synchronizing signal H which are given from the synchronizing separator circuit 101When it detects whether a rapid and large change arose in the video signal based on the dissimilarity of the sampling value of an order frame and such change arises the signal which shows that is given to the control section 108. The detection result of a stereo signal is inputted into the video change primary detecting element 105 from the stereo signal detector circuit 102in order that it may respond for whether being a stereophonic

broadcast since CM is performed by a stereophonic broadcast in many casesand it may change the judging standard of the video change primary detecting element 105.

[0031]The control section 108 is monitoring the non-sound data from the voice silence detection part 104 continuously.

When it judges that it was in the soundless state when the data in which a soundless state is shown continued for 250 ms in succession and the video change primary detecting element 105 detects the change rate of a screen at the timeit is judged as a start or end of CM.

And read the current time at the time in the clock part 106and hold insideand CM time is measured by an internal soft timerWhen it ends in timesuch as 10 seconds generally used as CM time15 secondsand 30 secondsIt is judged as the end time of CM with itand only the measured CM time goes back from the point in timeand the voice data created by the voice data preparing part 103 in the meantime is read from internal RAM. NowCM voice data is able to be detected.

[0032]If CM voice data is detectedthe control section 108 creates CM data including detected CM voice dataits start timethe number of CM secondsand the station name (A station) that self takes charge ofand sends it out to CM extraction control device 13.

[0033]The control section 108 changed into text the present date outputted from the clock part 106and the time signal which shows timeand has given it to the superimposition circuit 107.

The superimposition circuit 107 adds characterssuch as timeto video-signal VI from the receiving circuit 100and outputs them to the video voice storage device 11-1.

The output of the clock part 106 is outputted also to the video voice storage device 11-1 as the time signal T.

[0034]The CM scanner interface 130-1 corresponding to [as CM extraction control device 13 is shownfor example in drawing 3.] each CM scanner 10-1 - 10-nand 1 to 1 - 130-nEach video voice storage device 11-1 - 11-nand the video voice storage device interface 131-1 corresponding to 1 to 1 - 131-nThe VTR interface 132-1 for new-materials CM corresponding to 1 to 1 to each VTR12-1 for new-materials CM - 12-n - 132-nlt comprises the bus 137 which connects these with CPU133ROM134 and RAM135and the on-line interface 136and the on-line interface 136 is connected to the modem 14 of drawing 1.

[0035]If CM data is received from the CM scanner 10-1 of drawing 1 - 10-n through the CPU scanner interface 130-1 - 130-nCPU133Received CM data is sent out to the CM identification device 3 through the modem 14 and the channel L11 of the on-line interface 136 and drawing 1. When CM data

is simultaneously received from two or more CM scanners at this time it buffers in RAM135 and sends out to the CM identification device 3 ICM data [every] sequential.

[0036]Also in CM extracting apparatus 1-21-3 provided in other TV broadcast area (2) and (3) the same operation as the above CM extracting apparatus 1-1 is performed in concurrency.

[0037](2) In CM identification drawing 1 in the CM identification device 3CM criterion data which should be used in each broadcasting areas is stored in CM standard data file 312-1 - 312-m.

CM criterion data which should be used for the CM identification day concerned of CM standard data file 312-1 - the 312-m before the CM identification start time of CM identification that day at least It is loaded to CM standard data memory 314-1314-2314-3 of the computer 307 for CM comparison through network server 306 and LAN300.

To CM standard data memory 314-1CM criterion data corresponding to TV broadcast area (1) here CM criterion data corresponding to [in CM criterion data corresponding to TV broadcast area (2)] TV broadcast area (3) in CM standard data memory 314-3 is loaded to CM standard data memory 314-2 respectively.

[0038]Drawing 4 shows the example of contents of CM criterion data loaded to CM standard data memory 314-1and has composition in which CM criterion data loaded to other memory 314-2314-3 is also almost the same.

[0039]The CM code in drawing 4 is a code for identifying uniquely CM broadcast in all the TV broadcast area.

It is used any of two kinds of inside of the VR codethe code to call and the Z code and the code to call they are.

[0040]The VR code is a code assigned to confirmed CM.

For example it is expressed for the numerical value which coded a type of industry a manufacture name the trade name the raw material the classification and the number of CM seconds respectively and connected them.

[0041]On the other hand when unidentified CM is identified since it is specified the Z code is a code by which an assignment of drawing number is automatically carried out in the CM identification device 3. the head -- the alphabet -- Z -- being entitled -- the following -- identifying -- having had -- a year -- the moon -- a day -- the time -- a part -- a second -- broadcasting -- having had -- TV broadcast -- area -- a station name -- CM -- a second -- a number -- respectively -- coding -- having connected -- a numerical value -- expressing -- having .

[0042]The voice data for comparison (for A offices) in the TV broadcast area (1) in drawing 4 the voice data for comparison (for B stations)--the voice data for comparison (for F offices) are the voice data for comparison for every office for CM identification of TV broadcast area (1).

the part which intersects the line of a CM code among a figure -- "-- the voice data for comparison with a actual portion to which owner" was given is recorded -- "-- it is shown that the voice data for comparison is not recorded on the part where-less" was attached.

The voice data for comparison (all station) of TV broadcast area (2) the voice data for comparison of all the offices for CM identification of TV broadcast area (2) the voice data for comparison (all station) of TV broadcast area (3) shows the voice data for comparison of all the offices for CM identification of TV broadcast area (3)respectively -- "-- owner" -- "-- the meaning of-less" is the same as that of the above. That isabout the office for CM identification included in TV broadcast area (1)the voice data for comparison is independently recorded on CM criterion data corresponding to the TV method area (1)respectively. It is recorded without distinction of an office about other TV broadcast area (2) and (3).

[0043]The comment in drawing 4 records talents trade namea backgroundetc. which appear in informationincluding languagemusicetc. included in the beginning of CMand CM in written form. Thereforethis comment is recorded only to confirmed CM whose CM code is the VR code. Since a comment is not directly used for comparative collationit is not necessary to necessarily load to CM standard data memory 314-1.

[0044]On the other handin drawing 1the CM recorder file 313-1 - 313-x are the files prepared for every office for CM identification of each TV broadcast area (1) - (3). It is broadcast in a corresponding office by this CM recorder file 313-1 - 313-xand all the CM information for CM identification that day about CM identified automatically is recorded on them. As for each CM informationa CM codebroadcast timesthe number of CM secondsa commentetc. are included.

[0045]CM identification operation in the CM identification device 3 is performed as follows.

[0046]Each TV broadcast area (1) CM data sent out from the CM extracting apparatus 1-1 to 1-3 of - (3) is received via modem 302-304 and LAN300 by the computer 307 for CM comparison.

[0047]The computer 307 for CM comparison will perform the following processingsif CM data is received.

[0048] (a) Choose CM standard data memory corresponding to the TV broadcast area where CM extracting apparatus which has sent out CM data belongs. Now CM standard data memory 314-1 should be chosen.

[0049] (b) Observe the column of the voice data for comparison corresponding to the station name in CM data received among the columns of the voice data for comparison in selected CM standard data memory 314-1. For example in the case of CM data about CM broadcast in A office it observes at the column of the voice data for comparison of drawing 4 (for A offices).

[0050] (c) Among the voice data for comparison contained in the column under present attention the number of seconds in the CM code chooses the voice data for comparison which is in agreement with the number of seconds in received CM data and compares with the voice data in CM data one by one.

[0051] (d) When there is voice data for comparison which is in agreement with the voice data in CM data through the network server 306 to CM recorder file (for example referred to as 313-1) corresponding to the station name in received CM data. CM start time in received CM data of a CM code a comment etc. which are given to the congruous voice data for comparison is recorded as ICM information and the processing about received CM data is finished.

[0052] (e) When the voice data for comparison which is in agreement in processing (c) does not exist perform processing (c) paying attention to the column of the voice data for comparison for the other stations of the same TV broadcast area (1). When the voice data for comparison which is in agreement even if it observes the column of the voice data for comparison for all the other stations does not exist processing (c) is performed paying attention to the column of the voice data for comparison of other TV broadcast area (2) and (3).

[0053] (f) In execution of the processing (c) about the column observed by processing (e) When the voice data for comparison in agreement is found the network server 306 is led CM start time in received CM data of a CM code a comment etc. which are given to the voice data for comparison which was in agreement with CM recorder file corresponding to the station name in received CM data is recorded as ICM information. The inside of the column of the voice data for comparison corresponding to the station name in CM data which CM standard data memory 314-1 received the voice data for comparison created from CM voice data in received CM data is recorded on the voice data for comparison of the part which intersects the CM code of the voice data for comparison which was [above-mentioned] in agreement. Although copying the voice data

for comparison of the other station which was [above-mentioned] in agreement is also consideredsince a delicate difference exists for every office even if it is the same CMit is desirable to create the voice data for comparison from CM voice data in received CM data.

[0054] (g) When a match does not exist in the voice data for comparison of all the columns in CM standard data memory 314-1 observed by processing (e) judge received CM data to be data concerning perfect new-materials CMand it performs the following processings.

[0055] (g-1) The voice data for comparison is created from CM voice data in CM data which the assignment of drawing number of the Z code was carried outand was receivedThe Z code which carried out [above-mentioned] the assignment of drawing number to CM standard data memory 314-1 collectively in addition as voice data for comparison corresponding to the station name in CM data which received this created voice data for comparison is added. Thus the added voice data for comparison is henceforth used as voice data for comparison at the time of collation.

[0056] (g-2) CM start time in the Z code which carried out [above-mentioned] the assignment of drawing number to CM recorder file corresponding to the station name in received CM dataand received CM data is recorded as ICM information through the network server 306.

[0057] (g-3) Create the message containing the station name in the Z code which carried out [above-mentioned] the assignment of drawing numberand received CM dataCM start timeand the number of CM secondsand transmit to the CM extracting apparatus 1-1 of CM data forwarding origin through LAN300the modem 302and the channel L11. This is for making new-materials CM record so that it may mention later. CM data sent out to the CM identification device 3 by the CM extracting apparatus 1-1 side is made to memorize temporarilyand it replaces with the above-mentioned message and may be made to send out the message which specifies CM data concerning new-materials CM from the CM identification device 3 to the CM extracting apparatus side.

[0058] (3) The video voice storage device 11-1 of the recording CM extracting apparatus 1-1 of new-materials CMFor exampleA/D converter 110 which changes into a digital video signal video-signal VI of the office A by which firm output is carried out from the CM scanner 10-1 as shown in drawing 5The digital video signal for one frame in the acquired digital video signal For examplethe data compression machine 111 which performs a data compression by sampling for every secondThe video memory part 112 which memorizes the digital video signal by which the data compression was carried outD/A converter 113 which changes into an

analog signal the digital video signal read from the video memory part 112 and is outputted to the video-signal terminal of VTR12-1 for new-materials CMA/D converter 114 which changes into a digital sound signal audio signal AU of the office A by which firm output is carried out from the CM scanner 10-1. The acquired digital sound signal For example the data compression machine 115 which carries out a data compression by sampling with the cycle of about 4 kHz and the voice memory part 116 which memorizes the digital sound signal by which the data compression was carried out D/A converter 117 which changes into an analog signal the digital sound signal read from the voice memory part 116 and is outputted to the audio input terminal of VTR12-1 for new-materials CM On the basis of the time signal T outputted from the CM scanner 10-1 output a write address and a read address to the video memory part 112 and the voice memory part 116 and control the light and a lead and. It comprises the memory part control apparatus 118 which outputs time signal TD later than CM extraction control device 13.

[0059] The video memory part 112 comprises three video memory 112-1 to 112-3. Each video memory 112-1 to 112-3 has the capacity which converts into time the digital video signal outputted from the data compression machine 111 and can record it only for 60 seconds. Therefore the video signal for 180 seconds is recordable by three pieces.

[0060] The voice memory part 116 comprises three voice memory 116-1 to 116-3. Each voice memory 116-1 to 116-3 has the capacity which converts into time the digital sound signal outputted from the data compression machine 115 and can record it only for 60 seconds. Therefore the video signal for 180 seconds is recordable by three pieces.

[0061] The video memory part 112 and the voice memory part 116 lead the memory part control apparatus 118 and it controls a light by timing as shown in drawing 6 (a). Namely about writing the writing of a digital video signal and a digital sound signal is first performed to the video memory 112-1 and the voice memory 116-1 over 60 seconds It writes in the video memory 112-2 and the voice memory 116-2 for the following 60 seconds and it writes in the video memory 112-3 and the voice memory 116-3 for the following 60 seconds. And it returns to the writing of the video memory 112-1 and the voice memory 116-1 again and the operation mentioned above is repeated.

[0062] On the other hand about read-out control which reads the signal written in each video memory 112-1 to 112-3 and each voice memory 116-1 to 116-3 by delay for 100 seconds is performed.

[0063] Therefore the relation between the input image sound of the video memory part 112 and the voice memory part 116 and an output video image

sound comes to be shown in drawing 6 (b) and an image and a sound are outputted by the delay for 100 seconds. Delay time signal TD outputted from the memory part control apparatus 118 expresses the time which was overdue for 100 seconds from current time. If it puts in another way the image read from the video memory part 112 and the voice memory part 116 and a sound will be the signals which notify CM extraction control device 13 at the time of when it is broadcast.

[0064]The capacity of the video memory part 112 and the voice memory part 116 and a read-out time delay (in the case of above-mentioned 100 seconds) are appropriately set up according to the time from the number of the maximum seconds of CM made into an automatic discrimination object and CM voice data detection to the message arrival by CM identification processing.

It is not limited to the example mentioned above.

[0065]Nowas mentioned abovewhen the voice data for comparison in agreement is not found in CM identification processing of the CM identification device 3the message which contains the station name in the Z code and received CM dataCM start timeand the number of CM seconds in the sending-out origin of CM data is sent.

[0066]In CM extraction control device 13 of the CM extracting apparatus 1-1. If this message is received via the on-line interface 136 of drawing 3CPU133 reads delay time signal TD from the video voice storage device interface 131-1 of the video voice storage device (for example referred to as 11-1) corresponding to the station name in a messageThe delay time signal TD gives motive directions to VTR12-1 for new-materials CM through the VTR interface 132-1 for new-materials CM to the timing which became the time which shows just before CM start time in a message. With directions of this startingVTR12-1 for new-materials CM starts record of the video signal and audio signal which are outputted by being delayed from the video voice storage device 11-1.

[0067]CPU133 of CM extraction control device 13 sends out directions of a stop to VTR12-1 for new-materials CM through the VTR interface 132-1 for new-materials CM if time to be equivalent to the number of CM seconds in [after sending out start instruction] a message passes.

TherebyVTR12-1 for new-materials CM suspends recording operation. It means that only the image and sound of the portion equivalent to new-materials CM were recorded now on the VTR tape with which VTR12-1 for new-materials CM was equipped.

[0068](4) After the output of TV record table and CM identification processing of input CM identification that day of new-materials CM

information are completed the process computer 315 for CM statistics of the CM identification device 3The communication control unit 305LAN300and the network server 306 are ledThe contents of the CM recorder file 313-1 on which CM information on CM identification that day was recorded - 313-x are readit edits into a predetermined form defined as a TV record tableand each TV broadcast area (1) - (3) and TV record table for every office are created. And created TV record table is outputted from the printer 25 of each TV broadcast area (1) - (3) through the modems 308-310 and the channels L12-L32. It is the contents of CM standard data memory 314-1 to 314-3 used for CM identification that day at the end time of CM identification processing on the dayand they are returned to the original CM standard data file 312-1 - 312-m. [0069]In TV record table 24 hammered out from the printer 25the CM codethe number of CM secondsthe commentetc. are indicated in order of CM start time. Howeverabout new-materials CM which is the Z codea comment does not have a CM code. Thena comment etc. are added and the work which transposes the Z code to the VR code is done as follows.

[0070]The new-materials VTR tape for every office recorded by VTR12-1 for new-materials CM of the CM extracting apparatus 1-1 - 12-n is set to VTR21 for playbackand it plays by TV22 for a monitor. At this timeit is collectively displayed on a reproduction screen by the time information inserted in the superimposition circuit 107 of drawing 2. Thenthe time information of a screen and CM start time recorded on TV record table 24 are comparednew-materials CM is specified one by onefrom a screen content and a soundthe type of industry of the CMa manufacture namea trade namea raw materiala classificationthe number of CM secondsetc. are checkedand the VR codea commentetc. are created. When just the reproduced contents of CM are insufficienta sponsor etc. are asked and it becomes final and conclusive. And the small computer 23 is operatedthe Z code currently recorded on TV record table 25the VR code created corresponding to the Z codea commentetc. are inputtedand it transmits to the CM identification device 3 through the modem 26 and the channel L12.

[0071]The above-mentioned transmission content is received through the modem 308LAN301and the communication control unit 311 by the process computer 315 for CM statisticsThe process computer 315 for CM statistics adds the comment etc. which changed the CM code in the CM recorder file 313-1 corresponding to Z received codes each - CM information on 313-x into each received VR codeand received. It prepares for next CM identification processing by updating simultaneously the part of CM standard data file 312-1 - the applicable Z code in 312-m.

[0072]By doing the above work about CM of all the Z codes which appears in TV record tableall the CM codes in the CM recorder file 313-1 - 313-x are corrected to the VR code.

[0073]Thenbased on the CM recorder file 313-1 after correction - the contents of 313-xthe process computer 315 for CM statistics draws up CM advertising statistical report document each TV broadcast area exception of CM identification that dayand according to office in the form of predeterminedand stores it in CM advertising statistical report file 316. Thusafter thata book is bound and drawn-up CM advertising statistical report document is distributed to the sponsor of CMetc.

[0074]

[Effect of the Invention]According to the CM automatic discrimination system of this invention explained above the following effects can be acquired.

[0075]CM scanner for every [in CM extracting apparatus which it had for every TV broadcast area] office for CM identification detects CM voice dataSince CM data containing the time etc. when this CM voice databroadcasting station nameand CM were broadcast is transmitted to a CM identification device through a channel and it was made to identify CM by comparative collation with the voice data for comparison to the CM identification device sideSince CM criterion data containing the voice data for comparison will end if it accumulates in the CM identification device sidetherefore the updating can be performed at one placein order for management of criterion data to become easy and for the comparison means in a CM identification device to also perform comparative collation intensivelyIt becomes unnecessary to have a comparative collation function of voice data in each office correspondence.

[0076]When the voice data for comparison in CM criterion data corresponding to the office where the CM was broadcastand coincidence are not able to be taken in comparison of CM voice data in CM dataSince it was made to carry out comparative collation also to the voice data for comparison in CM criterion data of other officesautomatic discernment is attained about CM already registered in which office. The new voice data for comparison is generated from CM voice data in received CM data at this timeSince it was made to add to CM standard data file as voice data for comparison in CM criterion data corresponding to the station name in the CM datait can carry out henceforthwithout the automatic discernment about the CM depending on the voice data for comparison of other offices.

[0077]Since only CM concerning the new materials which were not able to be identified as a result of the comparative collation of a CM

identification device is recorded on VTR for new-materials CM confirmation work by the help about new-materials CM can be performed promptly. Since automatic registration of the voice data used as the standard over new-materials CM is carried out the same CM that appears henceforth is automatically discriminable.

DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1] It is a block diagram of one example of CM automatic discrimination system of this invention.

[Drawing 2] It is a block diagram showing the example of composition of CM scanner.

[Drawing 3] It is a block diagram showing the example of composition of CM extraction control device.

[Drawing 4] It is a figure showing the example of contents of CM standard data memory.

[Drawing 5] It is a block diagram showing the example of composition of a video voice storage device.

[Drawing 6] It is a timing chart of a video voice storage device of operation.

[Description of Notations]

1-1 to 1-3 -- CM extracting apparatus

2-1 to 2-3 -- New-materials CM information input device

3 -- CM identification device

10-1 - a 10-n--CM scanner

11-1 - 11-n -- Video voice storage device

12-1 - 12-n -- VTR for new-materials CM

13 -- CM extraction control device

142627302-304308-310 -- Modem

21 -- VTR for reproduction

22 -- TV for a monitor

23 -- Small computer

24 -- TV record table

25 -- Printer

300301 -- LAN

305311 -- Communication control unit

306 -- Network server

307 -- Computer for CM comparison

312-1 - a 312-m--CM standard data file

313-1 - a 313-x--CM recorder file
314-1 to 314-3 -- CM standard data memory
315 -- Process computer for CM statistics
316 -- CM advertising statistical report file
